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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,024	12/30/2003	Alexander H. Little	APL-P3231	6524
62096	7590	07/03/2007	EXAMINER	
APPLE COMPUTER, INC.			MONIKANG, GEORGE C	
c/o PARK, VAUGHAN & FLEMING LLP			ART UNIT	PAPER NUMBER
2820 FIFTH STREET			2615	
DAVIS, CA 95618-7759				
			MAIL DATE	DELIVERY MODE
			07/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/748,024	LITTLE, ALEXANDER H.
	Examiner George C. Monikang	Art Unit 2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 26 October 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-33 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-33 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7-8, 10, 17-21, 26-29, 30-31 & 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Fado et al, US Patent 5,943,649.

Re Claim 1, Fado et al discloses a microphone comprising: a) a plurality of electrical contacts for interfacing with an external device (*fig. 7: 142*); and b) a circuit, connected to at least one electrical contact (*fig. 48: 10; fig. 1*), that provides the external device with data about the microphone (*fig. 1: 16, 48*).

Re Claim 7, Fado et al discloses the microphone of claim 1 where the circuit includes a programmable read only memory storing data (*fig. 48; col. 15, lines 43-49*) that identifies the desired pre-amplifier gain (*fig. 1: 16, 48*).

Claim 8 has been analyzed and rejected according to claim 7.

Re Claim 10, Fado et al discloses an interface unit comprising: a) a first connector having a plurality of electrical contacts for interfacing with a microphone (*fig. 7: 142; fig. 39*); and b) a second connector having a plurality of electrical contacts for interfacing with a computer system via a digital bus (*fig. 7: 142; fig. 39*); wherein the interface unit is operable to obtain data from the microphone about the microphone (*fig.*

1: 16, 48); and wherein the interface unit is operable to transmit the data to the computer system (fig. 48).

Re Claim 17, Fado et al discloses the bus interface of claim 10 further comprising a third connector for interfacing with a second microphone (fig. 39).

Re Claim 18, Fado et al discloses the interface unit of claim 10 further comprising a third connector for interfacing with another interface unit (fig. 39).

Claim 19 has been analyzed and rejected according to claim 1.

Claim 20 has been analyzed and rejected according to claim 7.

Claim 21 has been analyzed and rejected according to claim 8.

Claim 26 has been analyzed and rejected according to claim 1.

Re Claim 27, Fado et al discloses the method of claim 26, further comprising modifying at least one setting in the computer system based at least in part on the transferred data (fig. 48).

Claim 28 has been analyzed and rejected according to claim 27.

Re Claim 29, Fado et al discloses the microphone of claim 1, wherein the data about the microphone identifies the desired pre-amplifier gain (fig. 1: 16, 48).

Claims 30-31 & 33 have been analyzed and rejected according to claim 29.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fado et al, US Patent 5,943,649 as applied to claim 1 above, in view of Levine, US Patent 6,356,084 B1.

Re Claim 2, Fado et al discloses the microphone of claim 1, but fails to disclose where the circuit forces the voltage potential between the at least one electrical contact and another of the plurality of electrical contacts to be zero. However, Levine does (col. 2, lines 22-34).

Taking the combined teachings of Fado et al and Levine as a whole, one skilled in the art would have found it obvious to modify the microphone of Fado et al with where the circuit forces the voltage potential between the at least one electrical contact and another of the plurality of electrical contacts to be zero as taught in Levine (col. 2, lines 22-34) so that the other electrical contacts could be isolated from each other.

Claim 3 has been analyzed and rejected according to claim 3.

Re Claim 4, Fado et al discloses the microphone of claim 1, but fails to disclose where the circuit includes a resistor having a first and a second terminal, the first resistor terminal being connected to the at least one electrical contact, the second resistor terminal connected to another of the plurality of electrical contacts. However, Levine does (col. 5, lines 50-56; col. 5, lines 567-60).

Taking the combined teachings of Fado et al and Levine as a whole, one skilled in the art would have found it obvious to modify the microphone of Fado et al with where the circuit includes a resistor having a first and a second terminal, the first resistor terminal being connected to the at least one electrical contact, the second resistor terminal connected to another of the plurality of electrical contacts as taught in Levine (col. 5, lines 50-56; col. 5, lines 567-60) to resist an electric current by producing a voltage drop between terminals.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fado et al, US Patent 5,943,649 as applied to claim 1 above, in view of Arndt et al, US Patent 6,421,448 B1.

Re Claim 5, Fado et al discloses the microphone of claim 1 but fails to disclose where the circuit includes a capacitor having a first and a second terminal, the first capacitor terminal being connected to the at least one electrical contact, the second capacitor terminal connected to another of the plurality of electrical contacts. However, Arndt et al does (fig. 2: c3 & c3).

Taking the combined teachings of Fado et al and Arndt et al as a whole, one skilled in the art would have found it obvious to modify the microphone of Fado et al with where the circuit includes a capacitor having a first and a second terminal, the first capacitor terminal being connected to the at least one electrical contact, the second capacitor terminal connected to another of the plurality of electrical contacts as taught in Arndt et al (*fig. 2: c3 & c3'*) to store energy between the electrical contacts.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fado et al, US Patent 5,943,649 as applied to claim 1 above, in view of Papadopoulos et al, US Patent 6,128,384.

Re Claim 6, Fado et al discloses the microphone of claim 1, but fails to disclose where the circuit includes an inductor having a first and a second terminal, the first inductor terminal being connected to the at least one electrical contact, the second inductor terminal connected to another of the plurality of electrical contacts. However, Papadopoulos et al does (*fig. 3: L/a & L/b*).

Taking the combined teachings of Fado et al and Papadopoulos et al as a whole, one skilled in the art would have found it obvious to modify the microphone of Fado et al with where the circuit includes an inductor having a first and a second terminal, the first inductor terminal being connected to the at least one electrical contact, the second inductor terminal connected to another of the plurality of electrical contacts as taught in Papadopoulos et al (*fig. 3: L/a & L/b*) in order to generate an electromagnetic force.

Claims 9 & 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fado et al, US Patent 5,943,649 as applied to claim 1 above, in view of Chiu et al, US Patent 6,882,577 B2.

Re Claim 9, Fado et al disclose the microphone of claim 1 where the circuit includes a programmable read only memory storing data (*fig. 48; col. 15, lines 43-49*) that identifies the desired pre-amplifier gain (*fig. 1: 16, 48*) but fails to disclose the memory being a serial electrically erasable programmable read only memory. However, Chiu et al does (*col. 1, lines 14-18*).

Taking the combined teachings of Fado et al and Chiu et al as a whole, one skilled in the art would have found it obvious to modify the microphone of Fado et al with the memory being a serial electrically erasable programmable read only memory as taught in Chiu et al (*col. 1, lines 14-18*) to provide high voltages for programming and erasing the memory array.

Claim 22 has been analyzed and rejected according to claim 9.

Claims 11-12, 23-25 & 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fado et al, US Patent 5,943,649 as applied to claim 10 above, in view of applicants admitted prior art (AAPA, para 0003).

Re Claim 11, Fado et al discloses the interface unit of claim 10 but fails to disclose further comprising: c) an amplifier for amplifying an analog signal received from the microphone (*para 0003*); d) an analog-to-digital converter, coupled to the amplifier

(para 0003); f) a bus interface coupled to the buffer (para 0003); and g) an I/O port for communicating with a computer system (para 0003). However, AAPA does.

Taking the combined teachings of Fado et al, AAPA and Southworth et al as a whole, one skilled in the art would have found it obvious to modify the interface unit of Fado et al with further comprising: c) an amplifier for amplifying an analog signal received from the microphone (para 0003); d) an analog-to-digital converter, coupled to the amplifier (para 0003); f) a bus interface coupled to the buffer (para 0003); and g) an I/O port for communicating with a computer system (para 0003) as taught in AAPA for signals to be processed so that the sound appears to originate from a selected location.

The combined teachings of Fado et al and AAPA fail to disclose "e) a buffer, coupled to the analog-to-digital converter." (background: external device). The combined teachings of Fado et al and AAPA do not explicitly disclose the external device being a buffer as claimed. Official notice is taken that both the concept and advantages of providing a buffer is well known in the art. It would have been obvious to use a buffer since it is commonly used to store data.

Re Claim 12, the combined teachings of Fado et al and AAPA disclose the interface unit of claim 11, wherein the analog-to-digital converter is also coupled to a microphone bias circuit (Fado et al, fig. 48: 10; fig. 1).

Claim 23 has been analyzed and rejected according to claims 10-11.

Re Claim 24, the combined teachings of Fado et al and AAPA disclose the method of claim 23, further comprising modifying at least one setting in the computer system based at least in part on the transferred data (Fado et al, fig. 48).

Re Claim 25, the combined teachings of Fado et al and AAPA disclose the method of claim 23, further comprising modifying at least one setting in the interface unit based at least in part on the transferred data (AAPA, background: external device).

Claim 32 has been analyzed and rejected according to claims 10-11 & 29.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fado et al, US Patent 5,943,649 as applied to claim 10 above, in view of applicants admitted prior art (AAPA, background), and further in view of Levine, US Patent 6,356,084 B1.

Re Claim 13, the combined teachings of Fado et al and AAPA disclose the interface unit of claim 11, but fails to disclose wherein the analog-to-digital converter is also coupled to a microphone bias circuit that contains a resistor having a first terminal and a second terminal, the first resistor terminal connected to at least one of the first connector's plurality of electrical contacts. However, Levine does (col. 2, lines 22-34).

Taking the combined teachings of Fado et al, AAPA and Levine as a whole, one skilled in the art would have found it obvious to modify the interface unit of Fado et al and AAPA with wherein the analog-to-digital converter is also coupled to a microphone bias circuit that contains a resistor having a first terminal and a second terminal, the first resistor terminal connected to at least one of the first connector's plurality of electrical contacts as taught in Levine (col. 2, lines 22-34) so that the other electrical contacts could be isolated from each other.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fado et al, US Patent 5,943,649 as applied to claim 10 above, in view of applicants admitted prior art (AAPA, background), and further in view of Southworth et al, US Patent 3,950,607.

Re Claim 14, the combined teachings of Fado et al and AAPA disclose the interface unit of claim 11, wherein the first connector's plurality of electrical contacts includes a first electrical contact and a second electrical contact (*fig. 7: 142; fig. 39*); but fails to disclose wherein the bus interface is coupled to the first electrical contact, which contains a serial clock signal; and wherein the bus interface is coupled to the second electrical contact, which contains serial data signals. However, Southworth et al does (*fig. 2; fig. 7; col. 8, lines 10-16*).

Taking the combined teachings of Fado et al, AAPA and Southworth et al as a whole, one skilled in the art would have found it obvious to modify the interface unit wherein the first connector's plurality of electrical contacts includes a first electrical contact and a second electrical contact (*fig. 7: 142; fig. 39*) of Fado et al and AAPA with wherein the bus interface is coupled to the first electrical contact, which contains a serial clock signal; and wherein the bus interface is coupled to the second electrical contact, which contains serial data signals as taught in Southworth et al (*fig. 2; fig. 7; col. 8, lines 10-16*) to be able to automatically configure audio channel settings.

Re Claim 15, the combined teachings of Fado et al, AAPA and Southworth et al disclose the interface unit of claim 11, further comprising a switch that is configured to identify a physical parameter of a microphone (*Southworth et al, col. 16, lines 5-7*).

Re Claim 16, the combined teachings of Fado et al, AAPA and Southworth et al disclose the interface unit of claim 15, wherein the switch is coupled to the bus interface (Southworth et al. col. 16, lines 5-7).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

6/21/2007


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